Corporate magazine
Fingrid Oyj
3/2005

FINGRID

Hannu Haase is an experienced contributor to

FORUMS OF CO-OPERATION

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CONFLICT OF TWO TYPES OF INFORMATION can be relieved

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Editorial

Dialogue is the DRIVING FORCE OF DEVELOPMENT

Corporate stakeholder relations and communications which support these relations are expected to be credible, topical and comprehensive. The wider the impact of the business on society, the more challenging this is. There is a fierce struggle for the time and interest of people troubled by the current haste and flow of information. In view of communicating a message and establishing a direct contact, interaction is a good thing just as long as it is not intrusive. An information campaign can be eye-catching, even in a conventional industry, but it must respect the practices applied in the industry, and a customer event may try new things but it still needs to be elegant. Fingrid is also well familiar with these highly controversial communicative objectives. The transmission system operator works deep in the core of the energy-intensive Finnish society, and its stakeholders are much more extensive and multifaceted than normally.

Fingrid founds its direct relations vis-à-vis its customers and other critical stakeholders on specialists and on an expert approach. In all our operations, we wish to endorse an open dialogue and assessment of our operations, no matter whether we are dealing with network plans drawn up together with the customers, routes of transmission lines, substation contracts, or clearing of faults in the power system. However, we wish to consciously dispel the often notoriously characteristic traits of organisations dominated by specialists, such as omniscience and operational rigidity. This is why, ever since our very first stages, we have applied an interactive approach.

In order to obtain extensive feedback on our customers' thoughts, experiences, needs and wishes, we established an Advisory Committee, which consists of the representatives of our customers, as early as when our company was being launched in the spring of 1997. The opinions and views of the Advisory Committee have given us important guidelines when making decisions in matters which are crucial to us. The voice of our customers is also heard in the Network Operation Committee and Power System Committee which serve the development of power system operation. Our regular theme days and regional customer events also contribute to these purposes.

We also wish to keep the channels open to our other stakeholders which have bearing on the continuity of our business. The new function Technology and Environment established within Fingrid this year aims to modify our procedures pertaining to technological development and corporate social responsibility to be as successful as possible. Here, too, we aim to utilise targeted forums, to which we are currently summoning members. The technology topic will discuss challenges and development projects in the engineering, operation, construction and maintenance of the transmission grid. The forum on transmission lines and the natural environment will focus on the biodiversity of line routes and on the natural values provided by their maintenance. Legislation pertaining to the construction of transmission lines and practical experiences of transmission line projects will be discussed in a forum consisting of the representatives of environmental authorities.

The trend in the status of legislation and authorities and the developments in the Nordic and European electricity markets have a crucial role when the future operating conditions of transmission system operation are being assessed. This calls for involvement in the efforts of various organisations in the industry and influencing these efforts both in Finland and internationally. Interaction skills and, above all, credibility are vital in this work.

Feedback gathered by us regularly from our customers and stakeholders together with their direct feedback indicate that our determined ambition to improve our procedures has been noted: the feedback has been on an excellent level for a length of time. We have always been in the top league in international benchmarking, often even representing best practice. So that we could retain this level also in the future, we wish to continue to listen to and discuss with all our stakeholders comprehensively using all available channels. Our input in customer relations and public relations has been rewarding. Interaction will be the energy source of our development also in the future years.

Matti Tähtinen is responsible for stakeholder relations and cross-border transmission service at Fingrid Oyj.

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Editorial staff
Telephone: +358 (0)30 395 5000, Fax +358 (0)30 395 5196,
Postal address: P.O.Box 530 , FI-00101 Helsinki, Finland
Street address: Arkadiankatu 23 B, Helsinki, www.fingrid.fi
Editor-in-Chief: Leni Lustre-Pere, leni.lustre-pere@fingrid.fi
Editorial board: Nina Elomaa, Jari Helander, Aila Itäpää, Antti Linna, Erkki Stam
Design by bbo, Better Business Office Oy, Maria Hallila and Tuija Sorsa
Translation by Kielipaja Hannu Hakala

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Elks have a tempting buffet table at transmission line areas.

Hannu Haase conducts and supports CO-OPERATION IN MANY FORUMS

The word co-operation is used frequently by Hannu Haase, Managing Director of Rovakaira Oy. He believes in the power of co-operation both in the development of Rovakaira Oy and in defending the interests of the energy industry. The long list of positions of trust held by him indicates that he has also shared his co-operation energy by participating in many organisations and associations over the past decades. Since last spring, Hannu Haase has served as the Chairman of Fingrid's Advisory Committee, a vital forum consisting of the company's customers.

TEXT BY Maria Hallila PHOTOGRAPHS BY Pekka Aho

Hannu Haase has experience of co-operation between Fingrid and its customers over several years during which he has served as a member and deputy member of the Advisory Committee. On this basis, he thinks that the Advisory Committee fulfils relatively well its original role and objective of a shared discussion forum.

"The Advisory Committee serves as an important information channel, it prepares matters, and enables the surveying of opinions and the testing of different types of plans and ideas," is how Hannu Haase characterises the role of the Advisory Committee.

Pricing issues on the top of the agenda

According to Hannu Haase, plans and changes concerning grid service pricing have traditionally been among the most important issues discussed within the Advisory Committee.

"The conflicts of interest in these matters are so severe that it is not possible to reach a direct compromise. This is why it is valuable both for Fingrid and the members of the Committee to obtain information and conduct discussions, on the basis of which everyone can form their viewpoints and perceive the overall situation. The Advisory Committee could be utilised even more than now in the preparation of pricing changes."

The conflicts of interest primarily stem from the different kind of relationship of different customers to the main grid; the different players have highly varying needs concerning the need for transmission service. "Some are relatively self-sufficient and only need the support of the nation-wide grid occasionally. Others take care of their entire electricity procurement through the grid or feed their entire generation into it. These different backgrounds in customership render the allocation of prices difficult," Hannu Haase says. He adds that the Advisory Committee has a role in the complicated process which ultimately results in decisions concerning new prices.

The Advisory Committee normally assembles three times a year. Hannu Haase considers this sufficient but feels that Fingrid could utilise the conclusions of preparatory discussions even more than now.

He regards it particularly important that the company retains its established procedures and maintains direct contacts with its customers, for instance by arranging regional information events.

"Even though the Advisory Committee represents the customers in a relatively versatile fashion and fulfils its duty as a discussion forum, it must not replace direct customer contacts," Hannu Haase points out.

Hannu Haase's way to the top of Rovakaira started in the 1970s and progressed through two regional electricity utilities, Savon Voima and Kainuun Valo. Along the way, he has accumulated a vital co-operation network which he considers as valuable, even indispensable, in his work.

National supervision of interests is important

In line with the new three-year contract period which commenced at the beginning of 2005, important and difficult pricing issues concerning the grid service have temporarily given way to other topics on the agenda of the Advisory Committee. These topics include issues relating to Nordic grid co-operation and cross-border transmission co-operation, such as plans concerning the construction of new transmission lines. The Advisory Committee has also discussed co-operation between European transmission system operators, which is more extensive than Nordic grid and electricity market co-operation.

According to Hannu Haase, European impacts on the Finnish energy sector are currently reflected most visibly in the strengthened regulatory role of the European Union. "There is an increasing number of regulations concerning electricity networks as well as electricity generation and use, and these regulations are more and more detailed, often causing unnecessary additional costs in the conditions that prevail here in the north."

He feels that the interests of the energy industry towards the EU are to be supervised by Fingrid and especially by the Association of Finnish Energy Industries (ET), which was established at the beginning of this year to represent companies operating in the energy industry. Hannu Haase was elected to the Board of ET in the constitutive meeting, and he thinks that ET has very important duties in the current situation.

According to him, Fingrid's challenges in international co-operation especially include supervising the interests of Finland when aiming at closer co-operation between the Nordic transmission system operators.

"Grid transmission is more inexpensive in Finland than in the other Nordic countries, and this fact should be taken into account when future forms of co-operation are being planned. The idea of integrating the Nordic grids cannot be seriously raised before all Nordic countries have brought their grids to the same level through improvements in their respective grids."

Challenges are opportunities

In recent years, Hannu Haase's co-operation ideas and desires have had a major impact on the developments in his company Rovakaira Oy. Seven years ago, Rovakaira transferred its electricity sales to Isommus-Energia which was established at that time. Isommus-Energia later evolved into Energiapolar, the fifth biggest electricity sales company in Finland. Rovakaira owns almost 20 per cent of the joint venture.

The integration of the businesses and resources of ten electricity sellers was, according to Hannu Haase, a response to stiffening competition on the electricity market. He believes that this competition will result in even more similar co-operation in the future.

The Managing Director of Rovakaira

The natural environment and physical exercise in various forms are important sources of strength for Hannu Haase. He is involved in several local sports clubs, but he emphasises that one's own active physical exercise is the very necessity of coping.

is currently occupied by co-operation challenges pertaining to the consolidation of the Town of Rovaniemi and the Rural Municipality of Rovaniemi at the beginning of 2006.

The starting points of this co-operation are fairly complicated. In addition to Rovakaira, Rovaniemen Energia owned by the Town of Rovaniemi also operates in the area of the new town. The Rural Municipality of Rovaniemi owns 40 per cent of Rovakaira, and that holding will be transferred to the new town in line with the consolidation of municipalities.

"We see the consolidation of the two municipalities as an opportunity, and co-operation negotiations aimed at finding practical advantages – and even discussions about the integration of the network businesses – have been conducted in a positive spirit for a year."

The situation is facilitated, among other things, by the fact that the transmission tariffs of the two companies are very close to each other.

"Our transmission price is the most inexpensive in Finland, and Rovaniemen Energia has the third most inexpensive price," Hannu Haase says. Both companies are co-owners of Energiapolar.

Information gives a competitive edge

During his career, Hannu Haase has served in more than 20 business and energy organisations, associations, committees and joint ventures. He is still actively involved in more than 10 of these.

He thinks that his inclination to co-operation has come about and developed because of the special requirements involved in operating up in the north.

"It is easy to understand here that you cannot accomplish very much on your own. Instead, working with your neighbours is almost the only way in which to reach results in many cases."

According to him, the need for co-operation is increased and highlighted by the continuous and rapid changes in technology, economy and society which characterise the modern day.

"For small companies, obtaining information is an important reason for co-operation. Information is a significant competitive edge on today's market. Large organisations have their own means for this."

Vitality from the exotic North

Hannu Haase, who travels between Lapland and the Helsinki region almost weekly, says that Finland looks quite different when seen from Rovaniemi than from the perspective of Helsinki.

"It seems that people in Lapland know what the capital thinks about things but the capital does not know how the people of Lapland see things," he says.

On the other hand, he says that the Lappish viewpoint is always considered in some way – if nothing else, people tend to ask how much snow there is in Lapland or what the cloudberry yield of the year was like.

"This exotic dimension could be utilised even more for instance in influencing the decisions made within the EU. Maybe we could fight senseless directives by highlighting their poor applicability to the Arctic conditions and the consequent additional costs," he says.

As an efficient reminder of the vitality of exoticism, Hannu Haase tells about a recent meeting with Fingrid's senior management. The meeting discussed the increasing need for electricity as a result of the Levi and Ylläs tourist centres and the project for the utilisation of the Suurkuusikko gold deposit. These, among others, will require the expansion of the grid in Lapland in the near future. A major line project is being launched in a fell scenery where southerners come to seek new energy in their lives.

Report on the assessment of social impacts of transmission line projects offers

KEYS TO THE CONFLICT OF TWO TYPES OF INFORMATION

TEXT BY Maria Hallila PHOTOGRAPHS BY Juhani Eskelinen

Integrating the knowledge possessed by experts with the views and experiences of citizens is a major problem in the assessment of the social impacts of transmission line projects. This is a conclusion of a recent research project funded by Fingrid. The report presents points of view for utilising laymen's knowledge and for accomplishing a shared language between the various parties. The goal is to improve the quality of environmental impact assessments.

Kalle Reinikainen, Licentiate in Social Sciences, and **Timo P. Karjalainen**, Master of Science, who carried out the research, name several user groups for their report, representing the various parties of the environmental impact assessment process. "The report is intended as a guideline and checklist for the parties which order these assessments, for consultants, contact authorities and those issuing statements." **Sami Kuitunen**, head of Fingrid's environmental unit, hopes that the report will promote the establishment of shared assessment procedures in Finland and improve the quality of assessments which concern impacts on people. According to him, it has become evident that identifying, defining and hence also assessing these impacts in EIA processes is as important as ascertaining the "nature impacts" of projects.

The research report project has also involved the National Research and Development Centre for Welfare and Health (Stakes).

General and unique impacts

The report distinguishes the concrete changes caused by a transmission line project and its indirect social impacts. "The various parties are aware of the concrete changes, and they are normally discussed in the assessment. On the other hand, it has been problematic to identify and assess the specific social impacts caused by these changes," the two researchers say.

According to the definition used in

Indirect social impacts caused by transmission lines

According to Kalle Reinikainen and Timo P. Karjalainen

- Health experiences
  - fears concerning the potential health impacts of electric and magnetic fields
- Scenic drawbacks
  - how the immediate scenery is experienced in everyday life
  - ➠ impact on comfort
  - changes in relationship with the natural environment
  - experiencing the loss of a milieu with cultural history value as a result of the construction of the transmission line
  - ➠ collective identity, nature/spirit of a location
  - experience or assumption concerning decreased value of land property
- Business and recreation
  - reduced forest area
  - growing of Christmas trees, new routes in forest, shooting areas for hunting
- Communal activities (change in social capital)
  - e.g. activation of village associations and creating a shared "spirit" or "strategic intent" for a village in conjunction with the EIA procedure, or
  - emergence of conflicts between villagers or different villages (or residential areas)

the report, a social impact refers to an impact of the project on people, community or society, where the impact causes changes in the welfare of people or in the distribution of welfare. "The assessment of social impacts examines who or what party gains benefits and what parties are potentially inflicted disadvantages by the project." Kalle Reinikainen and Timo P. Karjalainen say that the change caused by the project may be for the better or worse depending on the point of view or assessment. "This is why the impacts on various groups cannot be simply treated as average values or statistical key figures," they point out.

According to them, the assessor should know how social impacts are identified and what issues should be examined in a particular project. "The crucial thing is that the assessment of the social impacts of transmission line projects separates the general impacts – with these general impacts being typical of most projects – from the unique or fully local impacts."

Local information is often individual

According to Kalle Reinikainen and Timo P. Karjalainen, local information is an essential part of the information needed in the assessment of social impacts.

"Such information can be highly individual, for instance experiences and fears concerning the potential health impacts of a transmission line." The researchers say that in line with an increase in general awareness of health matters, there has been increasing interest in the electric and magnetic fields caused by electricity systems. "The causal connection between the magnetic fields and cancer has not been indicated by research. The Radiation and Nuclear Safety Authority of Finland has stated that the risk of cancer as a result of exposure to the magnetic fields of a transmission line in Finland is extremely small. Still, a minimal risk is enough to cause fear," Reinikainen and Karjalainen say. They also point out and warn that information obtained through interaction should not be immediately divided into objective and subjective information. "It is the actual assessment that determines the objectivity of the impacts on the basis of all information obtained from the field," they say.

According to the report, matters which are controversial in terms of the social impacts of transmission line projects include not only the potential health impacts but also their scenic impacts. "These disadvantages are taken into account in the expropriation process when the compensations are defined as part of the overall situation," the researchers state.

Involvement helps to alleviate fears

The main advantage of the report is that it brings forth such methodological viewpoints which can be used for applying laymen's knowledge to the assessment of social impacts and for achieving equal interaction and a shared language between the various parties. Kalle Reinikainen and Timo P. Karjalainen say that scientific and technical expert knowledge on one hand and the citizens' views and experiences on the other hand do not meet each other – there is a conflict between two types of information – and this easily creates lack of confidence between the parties. According to the two researchers, this lack of confidence remains with the local residents even though they receive scientific information.

"However, the related problems can be alleviated by paying attention to interaction methods and by understanding the nature and significance of local information," they point out.

"Through involvement, the local residents can vent their fears and feelings which reflect general notions and fears concerning the dangers of transmission lines when a transmission line is to be built in their own environment." According to the researchers, the assessor should not underrate people's fears and experiences but to discuss them and provide the best available information in an exoteric manner.

"Often just listening to people and discussing with them is enough to make their worst fears and threats go away. The essential thing in view of the outcome is that through interaction, local people have a feeling that they have been heard and that their opinions and notions based on their experiences are understandable and acceptable."

In this way, the general attitude towards the project often becomes more positive, or at least people's willingness to negotiate on difficult matters is improved.

It is important to see the big picture

The researchers also emphasise the differences in the viewpoints of the various parties. These differences manifest themselves in how the project is perceived and in an ability to see it as a part of a bigger picture.

"The planning of a project often works simultaneously on several different levels. From an engineer's point of view, the various levels work together as an entity, but for the local people it is the local level that constitutes the natural interface to the project."

The goal of interaction is to seek interfaces on the different levels of engineering and to find comprehensive solutions.

"The local residents should be able to discern the significance of individual solutions on the full entity. Right at the presentation of the assessment programme stage, all parties should be explained how an individual project is linked to a larger system," Kalle Reinikainen and Timo P. Karjalainen point out.

Fingrid and EIA

By law, an environmental impact assessment (EIA) must be carried out for at least 220 kilovolt transmission lines exceeding 15 kilometres in length.
Fingrid has carried out the EIA procedure in 14 transmission line projects. The company has commissioned six follow-up reports of the experiences of landowners and authorities concerning the EIA processes and construction of transmission lines after the completion of the lines (and summaries of these reports).
Fingrid has also drawn up a follow-up report of the Länsisalmi–Kymi 400 kilovolt transmission line which was completed at the end of the year 2000 (Sito 2004).
The National Research and Development Centre for Welfare and Health (Stakes) has studied the monitoring of impacts on people in the implementation of a transmission line (Savolainen-Mäntyjärvi & Kauppinen 1999).
Fingrid's predecessor together with Posiva and Imatran Voima financed a research project which studied the assessment of social impacts in energy projects (Koivujärvi et al. 1998).

Janne Määttä's Internet pages provide a

GALLERY OF HUNDREDS OF TRANSMISSION LINE TOWERS

Janne Määttä is looking at two robust transmission lines, which run side by side in a field in Espoo, through the lens of his camera. He says that the sight is one of the most impressive ones in the Helsinki region: no matter whether you look to the north or south, you can sense the massiveness of the towers and conductors and feel the force of the current they transmit. Gradually, you also start to grasp Janne Määttä's special interest. About a year ago, he established a Tower Gallery on the Internet. At the end of last summer, the Gallery contained photographs and most important details of more than 700 transmission line towers in Finland.

TEXT BY Maria Hallila PHOTOGRAPH BY Juhani Eskelinen

"That line transmits electricity from Inkoo to Hyvinkää at a voltage of 400 kilovolts. The other line with a lower voltage runs to Virkkala," Janne Määttä says in explaining the routes of transmission lines which traverse the scenery. He also lists the construction years of the lines, some technical details as well as the substations which connect the lines to the rest of nation-wide power system. He adds that this particular location is significant in terms of the history of electricity transmission in Finland. "The line that runs through here to Virkkala was originally, in the 1930s, the first line in Finland where wooden portal supports were used."

Interest inspired information seek

Alongside the transmission line map of the nation-wide grid, Janne Määttä seems to remember the line routes of many regional networks. His interest has also inspired him to gather information on transmission line technology.

"I have read through all available basic text books in this field," Janne says and thinks that he might very well already possess the theoretical knowledge of a transmission line mechanic. His actual education and profession are only indirectly related to electricity networks: he builds wireless broadband networks for enterprises.

Childhood sceneries still in mind

Born and raised in Raahe further up north, Janne Määttä says that he first became interested in transmission line towers as a child. He inherited his interest partly from his father who used to work as an electrician in industry.

"I still have vivid memories of transmission line towers on the Oulu – Kuusamo route which we drove on the way to our summer house. The lines along that route became very familiar."

According to Janne Määttä, towers on transmission lines in Northern Ostrobothnia are well represented in his Tower Gallery while there are only few photographs of towers in South-Eastern and Eastern Finland.

There is still much to shoot even though other tower enthusiasts and those visiting the pages contribute to the collection occasionally. Janne estimates that approximately 100 photographs in his collection have been taken by others. He believes that all basic tower types used in Finland are probably represented in his gallery.

Janne Määttä chooses the locations where he photographs the towers on the basis of the current mood and situation rather than systematically. "I take pictures where I happen to be anyway. I get some tips from those who visit the pages, and sometimes I just head for a new direction," he says.

Exchange of information and opinions

The Tower Gallery is not just a place for viewing photographs. The pages also provide a forum for discussion concerning transmission lines and their towers, and this discussion may be lively at times. Comments on new photographs often arouse questions or views, which have led for instance to the following discussion between several screen names. The topic was a 2 x 400 ▶

kilovolt special-design tower in Saksala in Porvoo.

"Well, that's a magnificent tower!"

"That's right! I've never seen a tower like that :)"

"I've seen another one like it."

"Looks great. Quite an interesting assembly."

...

"What's up there? Are they overhead earth wires or something like that?"

"Yep, that's what they are."

Janne Määttä follows the discussion conducted on his pages closely and is satisfied with the tips and information obtained through it. "It is easy to see that many of the contributors are experts – engineers or builders of transmission lines," he says.

A photograph of a tower on the Ruotsinkylä–Hyvinkää line, one of the oldest lines in Finland, roused many questions among those who visited the pages. The questions concerned issues such as the age of the conductors and insulators on the line, insulation materials used in the 1920s, and the durability of these insulators. The net discussion provided knowledgeable answers to all questions.

The pages have also caused other types of opinions. A photograph showing lines leaving the Tammisto substation in sunrise, added to the gallery last December, spurred one visitor to make a reference to nuts and exclaim: "Get a life!". The discussion between several visitors was concluded by "Jaska": "Good picture, it was good to see it."

Janne Määttä welcomes everyone to his Tower Gallery which can be found at http://calm.iki.fi/tolpat/

Janne Määttä received the most surprising and also the most encouraging comment on his interest from an elderly visual artist after Janne's interview had been published in the Helsingin Sanomat last summer. "He phoned me and said that it was great that someone is interested in things like these."

Transmission line is part of the scenery

Janne Määttä's interest has had a considerable impact on the way in which he views and observes the surrounding scenery and environment. "I rarely miss a tower," he says.

Does he think that a transmission line with its towers makes the scenery more beautiful or uglier?

"I think that transmission line towers are a part of the scenery in an industrialised country," Janne Määttä thinks.

"Naturally, there are valuable and delicate sceneries where the number of towers should not at least increase from the present," he adds.

One of the advantages involved in his interest is that he can spend a lot of time outdoors; when you examine the transmission lines, you walk long distances almost without noticing it. "Accumulating information on electricity networks and high-voltage equipment has also been useful in many ways," he concludes.

IN BRIEF

Timo Toivonen received honorary title

Tarja Halonen, President of Finland, granted **Timo Toivonen**, President & CEO of Fingrid Oyj, a high-ranking Finnish honorary title, energianeuvos, on 25 November 2005.

Dark blue Pirkanpylväs erected in Lempäälä

TEXT BY Leni Lustre-Pere Conceptual images of the tower by Konehuone/Jorma Valkama

The most recent special-design transmission line tower in the Finnish grid will be erected in Lempäälä close to the Helsinki–Tampere motorway. The general public were given an opportunity to influence the colour and name of the tower through a poll arranged by Fingrid. The landmark tower named Pirkanpylväs will have a dark blue surface.

The tower will be part of the 400 kilovolt transmission line constructed from Ulvila to Kangasala. The line will reinforce the main electricity transmission grid in the regions of Satakunta and Pirkanmaa. Foundation work for the line commenced in Kangasala in early autumn, and, according to **Ritva Laine**, Project Manager, the special-design tower will be erected in February–March 2006. The line will be ready in the summer of 2008.

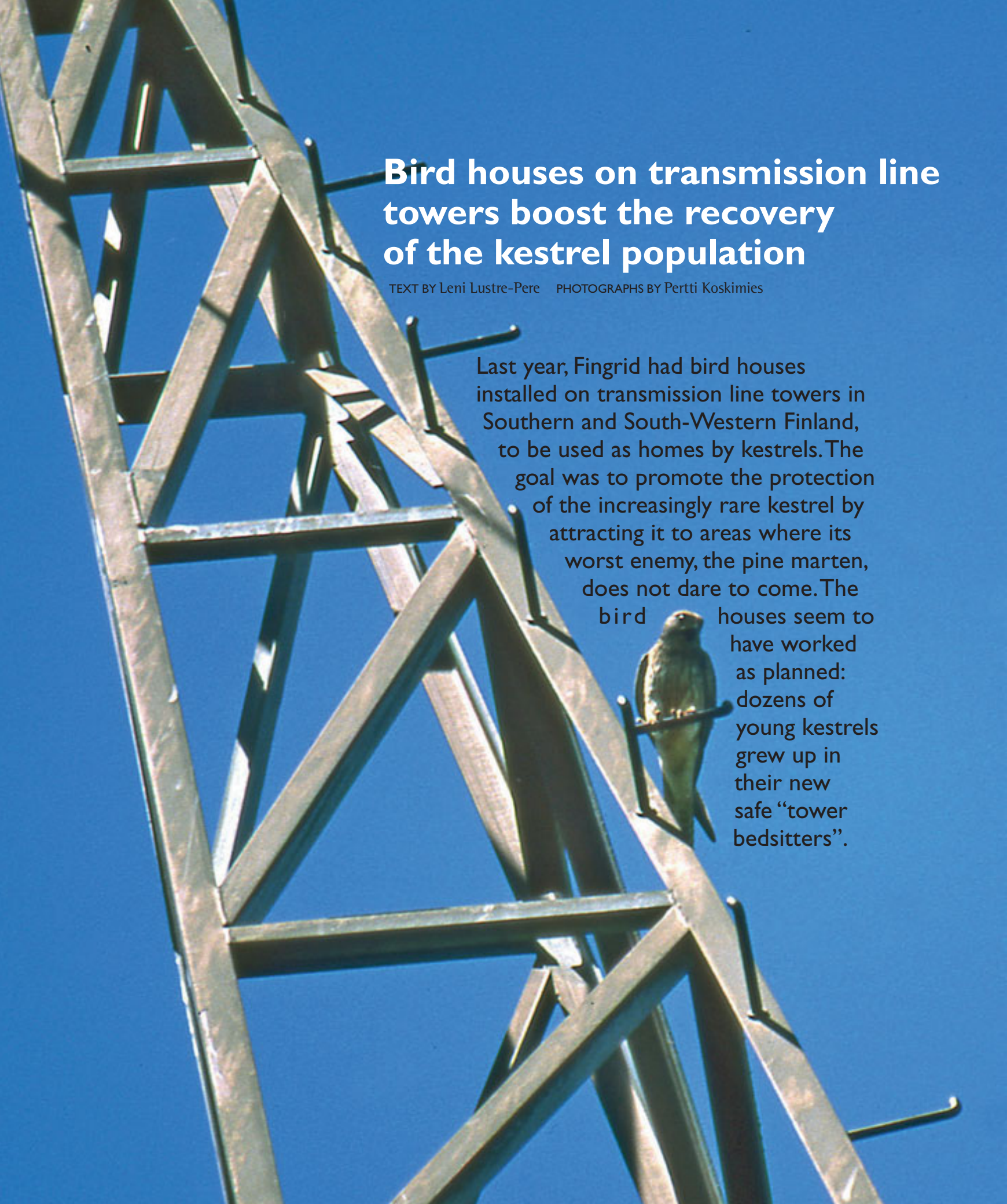
Pirkanpylväs designed by **Jorma Valkama**, Interior Designer, will soften the scenic impacts of the transmission line running close to the motorway in Lempäälä, and it will probably soon become a local landmark.

In October, Fingrid arranged a poll in regional newspapers on the colour options of the tower. Dark blue turned out to be the most popular option of the three available alternatives (dark blue, light blue and green). The respondents were also given an opportunity to suggest a name for the tower. Out of the more than 300 replies, the jury picked Pirkanpylväs.

The names suggested were highly creative, reflecting local traditions, names of birds or colours preferred by the respondents. Derivatives of Pirkka, referring to the region of Pirkanmaa where the tower will be located, were common in many suggestions alongside the winning name, as were names relating to Lempo or Lempäälä.

The winning name was suggested by **Henna Levomäki** from Punkalaidun. The jury considered that the name contained the essential: Pirkka refers to the local area, and the latter part (pylväs, meaning tower) describes the structure itself. The historical dimension and ambiguity of the word Pirkka also appealed to the jury.

Pirkanmaa is an area with a very long settlement history in Finland, with permanent settlement since the Stone Age and signs of human visits up to 9,000 years ago. Pirkka is a man's name, and pirkka is also an early version of a receipt – a wooden stick onto which the value of the goods traded was notched.



Bird houses on transmission line towers boost the recovery of the kestrel population

TEXT BY Leni Lustre-Pere PHOTOGRAPHS BY Pertti Koskimies

Last year, Fingrid had bird houses installed on transmission line towers in Southern and South-Western Finland, to be used as homes by kestrels. The goal was to promote the protection of the increasingly rare kestrel by attracting it to areas where its worst enemy, the pine marten, does not dare to come. The bird houses seem to have worked as planned: dozens of young kestrels grew up in their new safe "tower bedsitters".

Pertti Koskimies, ornithologist, says that kestrels nested in different times last summer, although most of the birds nested at the normal time, starting no later than the beginning of May. Since the mole population almost throughout Finland was large, there were also many kestrels with nestlings in areas preferred by these birds of prey. Kestrels also tend to have more nestlings than average in good mole years.

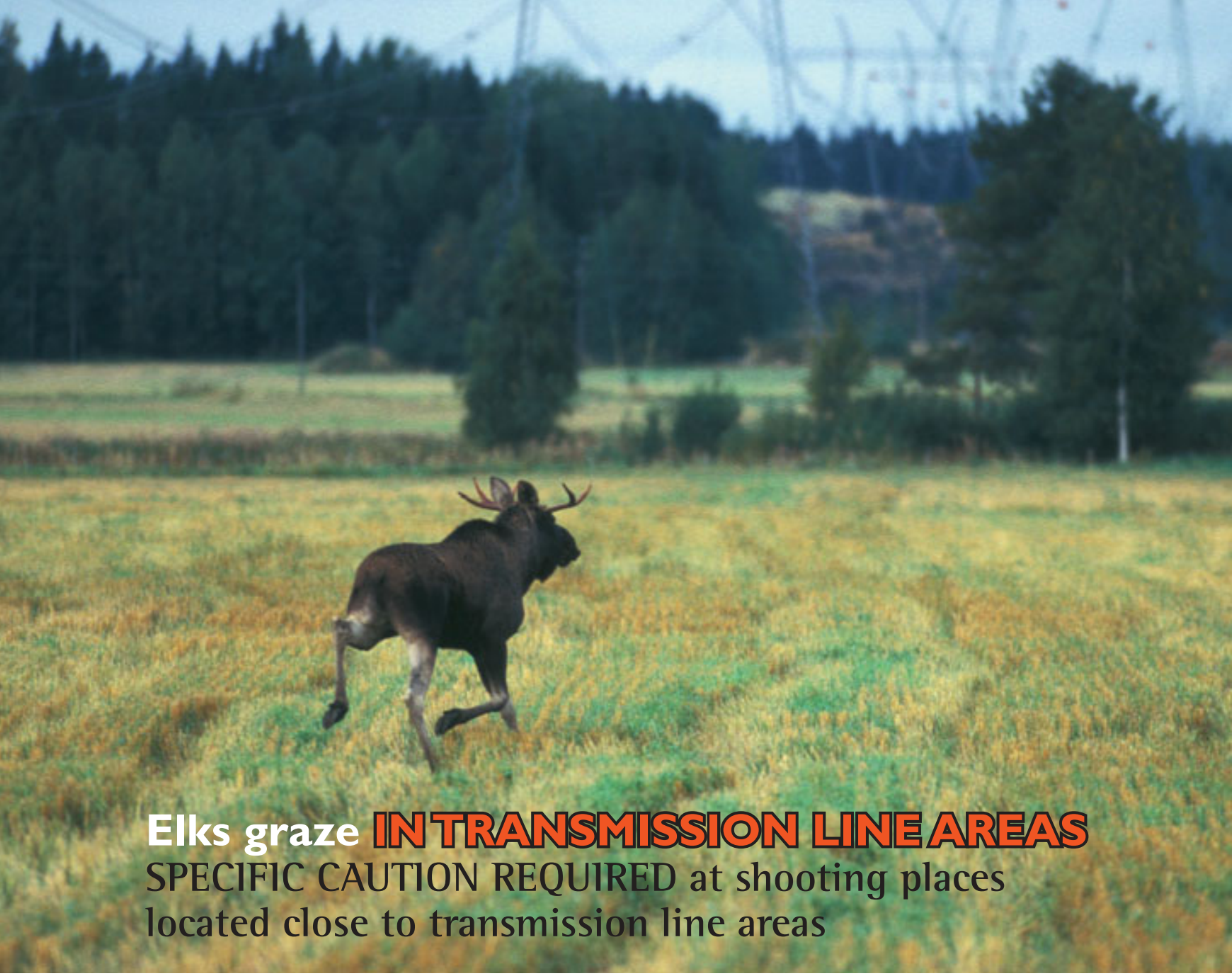
Farmers and seeding stand owners favour kestrels, which are also referred to as flying mole traps. A kestrel family may eat hundreds of moles and other small mammals during a nesting season. Mole catching in the early spring increases the efficiency of this hunt, as many pregnant female moles are caught by the kestrel.

In all, kestrels inhabited nine new bird houses installed by Fingrid in Tammela, Elimäki, Ruotsinpyhtää, Anjalankoski and Luumäki. Some signs of temporary stay, mostly feathers, were also noticed in four other bird houses. The kestrels probably were aware of even more bird houses although no signs of permanent stay were noticed in these. "Since male kestrels tend to stay in the same place, it is probable that the number of kestrels nesting in the transmission line towers will grow. This has been the case in all areas were new bird houses have been installed: the birds first learn to know their new habitat," Pertti Koskimies says.

Kestrel (Falco tinnunculus) with tapered wings and a long tail, is a member of the falcon family. It is slightly smaller than a crow, and it can be identified easily by the way in which it catches its prey: the bird hovers almost in one place against the wind over a field prowling moles. Once it notices its prey, it descends gradually and finally dives down to grab the catch.

The kestrel population in Finland has declined to a fraction from that which existed half a century ago. The biggest probable reasons for the decline in the kestrel population are environmental toxins and an increase in pine marten population. Drainage of fields and changes in the agricultural environment have also undermined the kestrel's natural hunting grounds.

The use of transmission line towers as a location for bird houses is exceptional, and only electricity professionals may install these houses because of safety reasons. Outsiders must not climb up transmission line towers under any circumstances. Those who ring the birds obtain special training in electrical safety.



Elks graze IN TRANSMISSION LINE AREAS

SPECIFIC CAUTION REQUIRED at shooting places located close to transmission line areas

TEXT BY Leni Lustre-Pere
PHOTOGRAPHS BY Kuvaliiteri

The Finnish Forest Research Institute has studied the significance of transmission line areas as pastures for elks for decades. The topic was discussed as early as 1958 by **Heikki Suomus** in an article published in a Finnish game journal.

Of all large mammals, elks especially like to feed near transmission line areas throughout the year. These areas are like a buffet table for elks: transmission line areas are cleared at regular intervals, which means that in the summer they provide young saplings – aspen, rowan and willow – of just the suitable size. This catering works all through the year, because junipers and growing pine saplings which are saved during clearing are elks' favourite treat in the winter.

Transmission line areas and their edges attract elks which tend to feed near such areas throughout the year. For elk hunters, transmission line areas traversing forests are excellent shooting places, and the strategy of many hunting parties is founded on utilising these areas. But there is more than one side to this.

Broom-like saplings

Grazing by elks leaves visible traces in the tree stand in transmission line areas. **Ari Levula**, Fingrid's Maintenance Manager for transmission lines, says that these traces can be seen for instance in rowans, which begin to resemble brooms as elks repeatedly eat away the new growth in their favourite grazing areas. Aspen coppices may turn into thickets for the same reason.

Forest owners are justly angry, because elks feeding in transmission line areas also damage the surrounding seeding stands.

Shooting platforms preferred

Many hunting associations have noticed that transmission line areas provide excellent shooting areas. Visibility in these areas is usually very good: the shooters can see each other and it is easy to define the shooting sectors so that no risks are created.

However, the transmission line structures always require caution when moving in the vicinity of lines. Earlier, hunters used to make sure not to fire the signal shot under a transmission line. Nowadays, these shots are rarely fired, because every hunter carries a mobile phone.

The building of shooting platforms is preferred for the safety of both hunters and transmission line structures. The platforms ensure that the shooting direction is always towards the ground.

However, shooting platforms must not be built under the conductors but to the edge of the transmission line area, to a sufficient distance from the conductors.

Game fields require a consent from the landowner

Since plants growing in transmission line areas attracts elks, these areas have also been used as game fields. These fields always call for a consent from the landowner.

Sometimes hunting associations place salt licks in transmission line areas to draw elks away from roadsides. This is recommended and sensible just as long as you make sure that the consent of the landowner has been obtained.

All in a day's WORK

"I just punch in the engineering code and the tower number of the line in my new telephone, which also serves as a navigator. The telephone gives me oral instructions right from the first crossing onwards. I must admit that only rarely can new technology give cause for as much satisfaction as now."

In this column, Fingrid's employees write about their one day at work.
This time, the article has been written by **MIKA KUIVALAINEN**, who works as Line Supervisor in Eastern Finland.

It is still dark when I get in the car instead of riding my bike as usual; today, I am due to spend the morning out in the field. I am the first one to arrive at the office this morning, so I start the day by making coffee. While I wait for the coffee to brew, I switch on the computer and radio. Browsing through and responding to yesterday's e-mail takes the time of a couple of coffee cups. I spent all of yesterday in Lappeenranta in the expropriation review of the new Yllikkälä–Lempiälä line.

At 8 o'clock, I put my papers and laptop in a backpack and start the drive to a transmission line some 100 kilometres away. This time, I do not need to study the map to find the exact location. Instead, I just punch in the engineering code and the tower number of the line in my new telephone, which also serves as a navigator. The telephone gives me oral instructions right from the first crossing onwards. I must admit that only rarely can new technology give cause for as much satisfaction as now.

At the agreed tower, I meet a forest clearing contractor who has arrived from Western Finland with his caravan and who is already eagerly filing the chain of his chainsaw. Amidst the forest, we have a starting meeting for the clearing contract. It is drizzling as we go through the documents relating to the work: the contract as well as electrical and occupational safety guidelines. We also discuss Fingrid's methodology for clearing transmission line areas, trees to be left standing and the special characteristics of the area cleared. Clearing normally begins in the spring, but transmission line inspections in the summer showed that the area to be cleared now contains so much coppice that it is best to get rid of the thickets during this autumn.

To celebrate the signing of the contract, the contractor pours me a mug of coffee from his thermos bottle, and we chat for a while. The permit to start the work has hence been given, and I stay at the site for a while longer to watch him getting into work before I head for my next destination.

On the way to the office I take a photograph of a strand fault in a conductor on a transmission line which runs beside a shooting range. Judging by the repair sleeves on the other conductors, the same problem has been encountered here even before this...

In the car, the cd player plays rock, only to be interrupted by the ringing of the phone. A landowner is asking about safety instructions for making a road beside our transmission line. I describe him the limits of safe working and ask him to submit a statement request concerning his road plans to **Tapio Suominen** in Helsinki. With the hands-free set on my ear – naturally – I drive along small roads towards the office.

I have lunch with a good friend of mine who works in the same office hotel. Half an hour is barely sufficient for savouring the lunch. Your appetite grows out in the open.

Life after lunch begins by reviewing matters that need my attention so that nothing goes into oblivion. Small matters take up quite a long time. I am planning the replacement of transmission line tower foundations when an error message reaches my mobile phone. There is a temporary disturbance on a nearby transmission line. This time the disturbance is so close that I study the Elnet system to see the estimated fault location and phase, take a quick look at the map, grab the laptop with maps, get in the car and head for the fault location. While I'm driving, **Veijo Siiankoski** from the Network Control Centre phones me about the disturbance, and we discuss the fault location which is more specific by now.

When I get to the line, I use my binoculars to examine the closest towers near roads, and I walk along the right-of-way for a while, but I find nothing, just as I had assumed. The calculated fault location is in an area with many lines that cross waterways, which is why the disturbance was probably caused by a bird which had collided with an insulator. After a couple of hours of looking for the cause of the fault with no success, I drive straight home. On the way, I remember the unfinished office work which I was supposed to tackle in the afternoon.

When I open the door at home, I hear a cheerful cry "Daddy" when my 18-month son comes to greet me. That wipes business matters from my mind, and transmission lines give way to Lego blocks.

IN BRIEF

Reinforcement of grid interface of Olkiluoto power plant

Work launched in Eurajoki and Huittinen

■ Fingrid has launched the construction of grid reinforcements required by the new Olkiluoto power plant unit in Eurajoki and Huittinen in Western Finland.

The new 400 kilovolt transmission line from Olkiluoto to Huittinen will be 64 kilometres long. The line will run beside the existing 400 kilovolt lines. Construction work began in mid-October by tower foundation work in Eurajoki. Regional associations of forest owners have harvested trees in the transmission line areas. The contractor in the transmission line project costing approx. 12 million euros is Eltel Networks Oy.

Construction work in the Huittinen substation area commenced in September. The project includes the construction of a 400 kilovolt outdoor switching plant and control room building. The main contractor in the substation project worth approx. 4 million euros is ABB Oy. Earthwork has been subcontracted to Kariniemi Ky and other building work to Rakennustuotanto RT Salovaara Oy.

The upgrading of the 400 kilovolt switching plant at Olkiluoto will begin next spring. All construction projects will be complete by the autumn of 2007.

Fingrid expanding the Tammisto and Espoo substations

■ Fingrid will expand the 400 kilovolt substations in Vantaa (Tammisto) and in Espoo in Southern Finland. The expansion work will be ready in the autumn of 2006.

The Tammisto substation will have another main transformer to secure electricity supply in the Helsinki region. The expansion of the Espoo 400 kilovolt substation will be carried out for connecting the Estlink DC connection to the Finnish grid.

The project at Tammisto will cost approx. 7 million euros, covering the construction of a 400 kilovolt gas-insulated indoor switching plant, adding a second main transformer, expansion of the 110 kilovolt and 20 kilovolt switching plants, and transmission line rearrangements in the substation area.

The value of the expansion project in Espoo is approx. 2 million euros, and, alongside the expansion of the 400 kilovolt switching plant, it includes some renovation work.

The main contractor in the expansions is Fortum Service Oy. At Tammisto, the construction work has been subcontracted to Skanska Tekra Oy and in Espoo to the Finnish Road Enterprise. The transmission line work is carried out by Eltel Networks Oy. The expansion of the 400 kilovolt indoor switching plant and the main transformer at Tammisto are supplied by ABB Oy.

The work at the substations has commenced. The expansions will be commissioned in stages so that they will be in full operation in the autumn of 2006.

German company to construct the 400 kilovolt transmission line from Ulvila to Kangasala

Foundation work launched in the autumn

■ Fingrid Oyj and SAG Energieversorgungslösungen GmbH, a German company, have signed a contract concerning the construction of a transmission line from Ulvila to Kangasala in Western Finland. The value of the contract is approx. 23 million euros.

In addition to the construction of a new 400 kilovolt transmission line of 129 kilometres, the contract covers modifications on the existing grid. The 65-kilometre part of the line from Sääksjärvi in Kokemäki to Melo in Nokia will be built by widening the existing right-of-way.

The Government of Finland granted the expropriation permit for the land areas required by the line on 11 August 2005. The construction work was launched by foundation work in Kangasala in the early autumn. The line will be ready in the summer of 2008.

Some tower work will also be carried out between Kangasala and Lentola this year. Towers will be erected south of Tampere, for instance at the location where the line crosses the Helsinki–Tampere motorway, during early 2006. The part of the line from Sääksjärvi to Melo will be constructed in 2006 and 2007, with the related foundation work commencing next spring.

Photograph by Ilkka Volanen

Illumination of special-design towers in Kaakkuri celebrates Oulu's 400th anniversary

Special-design transmission line towers in Kaakkuri in Oulu have been illuminated to celebrate the 400th anniversary of the City of Oulu. The illumination carried out jointly by Oulun Energia and Fingrid Oyj has been connected to the street lighting of Oulu.

The series of eight towers designed by Studio Nurmesniemi was constructed in Kaakkuri at the beginning of this millennium. The blue steel towers with a height of approx. 20 metres provide a modern landmark for a new residential area located close to the airport.

The illumination of six towers emphasises the distinct and simplified profile of the towers and gives an idea of their colour also during the dim and dark hours of the day. The artistic design was in the hands of **Jorma Valkama**, Interior Designer, and Ilkka Volanen, Lighting Designer. The lighting solution is a combination of new LED technology and traditional floodlight technology.

The LEDs were supplied by Electrowaves Oy and the floodlights by Oy Hedtec Ab. The City of Oulu provides the lighting electricity for the towers, and Eltel Networks Pohjoinen Oy took care of installing the light fixtures and connecting the equipment.

L.L-P.


Kuva: FutureImageBank

HAVE YOU SEEN THE LIGHT?

It is getting dim in the North. In Sweden, Christmas lights were lit a long time ago. Electric candelabra, originally intended for use during the Advent, emerge on window sills as soon as the first signs of twilight occur, and they are not removed before someone notices that the summer is approaching. There are lights and decorations everywhere. Neat and efficient. But it does not feel the same.

Finns have an infinite tolerance towards darkness and silence. In fact, Finns love this season of the year, and many people say that they wait for the autumn in anticipation so that they could light candles in the dark, not having to worry about going anywhere.

The darkness falls quickly in other parts of Europe. A candle is lit in a church in Rome for a prayer. A coin drops in the box, and a candle in a large electric chandelier goes on: the prayer reaches its destination. There is no need to change the candles or to clean the candle wax, tourists no longer burn their sleeves and smoke does not damage the old pictures. Neat and efficient. But it does not feel the same.

In Finland, people light live flames and take the light into their own hands when they wish to make a point together, no matter what the authorities say. Russian oppression in the late 19th century and early 20th century brought candles to people's windows in silent demonstration, and they can still be found there on every Finnish Independence Day. On All Saints' Day and at Christmas, people bring candles to graveyards to reminisce their loved ones who have passed away. Candles and flowers are often brought to roadsides and other tragic venues quite spontaneously.

We can still remember the days when everything did not have to be neat and efficient, the days before rationalists saw the light.

We used to have policemen controlling traffic, with their personal manoeuvres being more elegant than the ballet; now we have traffic lights which can be ignored easily without a fear of punishment. We used to have offices where doors were opened and visitors were met in person; now we have traffic lights even at office doors, commanding the visitor in a monosyllabic and harsh manner. We used to do things together in the pale light of the reading lamp or around the kitchen table; now we have the cold glimmer of the television or computer screen, with no need for other people around us.

Light has replaced the conventional pointer of the teacher, the tanning sun, the precision of the surgeon's scalpel.

It does not matter even though it does not feel the same. It is our own fault that we have priced ourselves and our work to be more expensive than electricity and light, at least on the short term – nobody longs for the kerosene lamp. It is our own merit that we have seen the light in so many things and abandoned the old, unecological methods. It is neat and efficient.

People tend to seek their way towards light. Alongside the physical light that is necessary to us humans, people tend to seek their way towards the light of reason and sense; some even aspire enlightenment. On one hand, people need to be in sight, in the limelight, as themselves; on the other hand, they try to avoid that light which reveals their mistakes and shame. And justly so; instead of being loved and seen as a whole, as they wish, people are often reviewed evaluatively. The light of the world is not the gentle reflection of a candle; it is merciless luxes thrown at our faces.

When we are enjoying the merciful twilight in wait for Christmas, we could very well let the high-power lamp of offending clear-sightedness die by itself. Even a small power is sufficient for lighting up life. The fluttering flame of a single candle in the dark dispels all darkness; darkness simply ceases to exist.

The brightest and most dazzling light can be reached, experienced and seen by everyone. It is fully free of charge. It does not consume any energy; on the contrary, it creates energy. It may be rare and certainly endangered, but it seems that there is a sufficient supply of it. It has no age limit. It changes its user, it changes the world.

The brightest and most impressive light can be seen in the eyes of someone who sees the loved one.

Hilkka Olkinuora

Hilkka Olkinuora is the columnist of the Fingrid magazine. She presents herself as follows: "Minister and journalist from Tampere, wrote earlier of economy, nowadays also again a student. Also works at workplaces, and discusses electric encounters in this magazine."

FINGRID OYJ

Arkadiankatu 23 B, P.O.Box 530, FI-00101 Helsinki • Tel +358 30 395 5000 • Fax +358 30 395 5196 • www.fingrid.fi

Helsinki
P.O.Box 530
FI-00101 Helsinki
Finland
Tel. +358 30 395 5000
Fax +358 30 395 5196

Hämeenlinna
Valvomotie 11
FI-13110 Hämeenlinna
Finland
Tel. +358 30 395 5000
Fax +358 30 395 5336

Oulu
Lentokatu 2
FI-90460 Oulunsalo
Finland
Tel. +358 30 395 5000
Fax + 358 30 395 5711

Petäjävesi
Sähkötie 24
FI-41900 Petäjävesi
Finland
Tel. +358 30 395 5000
Fax +358 30 395 5524

Rovaniemi
Veitikantie 4,P.O.Box 8013
FI-96101 Rovaniemi
Finland
Tel. +358 16 337 71
Fax +358 16 337 801

Varkaus
Wredenkatu 2
FI-78250 Varkaus
Finland
Tel. +358 30 395 5000
Fax +358 30 395 5611